

Agreement Reached for Completion of SMU 56/57

By Susan Pastor, U.S. Environmental Protection Agency

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An agreement among the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources (DNR) and Fort James Corporation to complete the dredging at Sediment Management Unit (SMU) 56/57 was finalized on Thursday, May 26.

At a press conference in Green Bay, EPA Regional Administrator Francis X. Lyons said this agreement provides the framework and assigns the responsibility for Fort James to take immediate action to address exposed polychlorinated biphenyls (PCBs) in the remaining sediment. "I am especially pleased that the agreement spells out the expectation that Fort James will complete the work this construction season," Lyons said. "The work will be conducted with EPA oversight in consultation with our partners at DNR."

Called a Consent Order, the federal agreement states that Fort James will finish the project started last fall. The agreement states that Fort James must clean up 50,000 cubic yards of PCB-contaminated sediment to a level of at least 10 parts per million (ppm). The level of exposed PCBs is currently as high as 310 ppm in some areas. The agreement also states that to be completely released from further responsibility at SMU 56/57, Fort James must reach 1 ppm. Sediment with levels between 1 and 10 ppm will have a 6-inch layer of sand placed over it to form a post-dredging cover. In addition, the edges of the excavated area will be sloped to prevent the contaminated sediment wall from falling into the cleaned area and causing recontamination, according to the agreement.

While a Consent Order is a federal tool typically used to ensure that all parties understand the objectives of a cleanup and to commit to them,



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DNR Secretary George Meyer expressed his satisfaction at the press conference, as well. "The DNR is pleased that we, the EPA and Fort James, have been able to come to an agreement to proceed with the completion of the cleanup of this site," he said.

According to Kathleen M. Bennett, Fort James' vice president of environment, safety and health, last year's demonstration project was valuable, even if it did fall short of its objectives. "This year, we plan to design the project in light of last year's lessons to remove PCB-contaminated sediment from the Fox River as quickly and cost effectively as possible," she stated.

Fort James plans to use hydraulic dredges to remove sediment and water from the river. The sediment will be separated from the water and sent by truck to a landfill owned by the company. There, sediment will be permanently buried in a cell. The separated water will be treated to remove any remaining contaminants and returned to the river. Bennett said the work, which will include more aggressive technologies than the passive sedimentation used last year, is expected to resume by Labor Day and should be completed by November. completed at the site and to prevent duplication and any unnecessary conflicts."

(Editors Note: The DNR Lower Fox webpages have been revamped and updated and the EPA has added a new page at its web site for information about SMU 56/57. Look them over and let us know what you think.)

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Fox River/Green Bay Natural Resource Trustees Join Forces

By Greg Swanson, Wisconsin Department of Natural Resources

On May 25, 2000, the State of Wisconsin, the Oneida and Menominee Tribes, and the federal government published a joint plan designed to coordinate the two ongoing natural resource damage assessments (NRDAs) for the Fox River and Green Bay.

This plan is a formal Assessment Plan Addendum to both the August 1996 Assessment Plan published by the U.S. Fish and Wildlife Service (FWS), the National Oceanic and Atmospheric Administration (NOAA), the Oneida Tribe of Indians of Wisconsin, and the Menominee Indian Tribe of Wisconsin, and to the July 1999 Assessment Plan published by the Wisconsin Department of Natural Resources (DNR).

The assessment plans and addenda are used to notify the public of methods that will be used to determine polychlorinated biphenyl (PCB) pathways, the extent of natural resource injuries and public losses, and necessary restoration. The natural resource trustees, composed of FWS, NOAA, DNR, and the Oneida and Menominee Tribes, publish these plans to give the public the opportunity to comment on the methods proposed. This Assessment Plan Addendum proposes to coordinate two separate NRDAs for the Fox River and Green Bay to further the goal of achieving a single unified position for what must be restored.

According to Greg Hill, the DNR coordinator for the NRDA at the site, "Our goal is to take advantage of all of the assessment work which has already been completed at the site and to prevent duplication and any unnecessary conflicts."

David Allen, Assessment Manager for FWS, added, "Once we agree on all of the existing assessment results, it's our intent to complete a single assessment with the Wisconsin DNR serving as the Lead Authorized Official."

This plan is available on the Internet at www.fws.gov/r3pao/nrda and www.dnr.state.wi.us/org/water/wm/lowerfox.

Copies of the plan can also be requested from David Allen of FWS at (920) 465-7407 or Greg Hill of DNR at (608) 267-9352. The plan is also available for viewing at any of the information repositories at public libraries in Appleton, Green Bay, Sturgeon Bay, Oneida and Oshkosh, as well as the FWS public reading room in Green Bay.

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Walleye, Eagles and Other Species are on the Increase - So, What's the Problem?

By David Allen, U.S. Fish and Wildlife Service and
Bri Bill, U.S. Environmental Protection Agency

Residents report increases in wildlife. People brag about "World Class" walleye fishing and celebrate that bald eagles in Wisconsin may not need the protection of the Endangered Species Act much longer. Some even say growing numbers of those high profile species are proof that polychlorinated biphenyls (PCBs) are not causing significant problems in local wildlife. So, why worry about PCBs and the problems they cause in the Fox River, Green Bay, and Lake Michigan?

People should worry because numbers alone don't tell the whole story.

Scientists and others are clearly concerned when a chemical causes whole populations to crash, as when many bird species numbers declined throughout the U.S. as a result of the widespread use of dichlorodiphenyltrichloroethane (DDT) for insect control between the 1940s and 1970s. While changing numbers in a population tell scientists something about the overall health of an ecosystem, making a scientifically valid connection between the effect of a contaminant and a change in the number of individuals is extremely difficult, if not impossible. Beyond the numbers, scientists are equally concerned when a chemical causes wildlife to suffer less obvious, but still measurable, physical effects. These effects are known as injuries. When these effects impact people's enjoyment or use of the resource, they are referred to as damages.

In the Fox River and Green Bay, injuries to wildlife are well documented. They include cancer in walleye, deformities in terns and, and fatalities to unhatched bald eagles, Forster's terns, common terns, and double-crested cormorants. These injuries have resulted in consumption advisories for every species of sport fish, and waterfowl consumption advisories for mallard ducks.

U.S. Fish and Wildlife Service (FWS) studies show that these injuries have resulted in significant damages. For example, while every year the public spends over a million hours

fishing on Green Bay, consumption advisories hurt the amount and enjoyment of the fishing experience and the value of caught fish as food. Charlie Wooley, assistant regional director for FWS noted, "Our recreational fishing valuation shows that fish consumption advisories are even more important to active Green Bay fishermen than catch rate. So it's not surprising that over \$100 million of restoration will be required to compensate for the decades that advisories have been, and will continue to be, in place."

Furthermore, recent FWS surveys of the general public show that people place a high value on the protection of fish and wildlife, even when the population is not obviously declining. Also, the fact that people enjoy catching walleye in the Fox River does not mean that the experience is truly "World Class" because the fish are unsafe to eat and often have liver tumors.

Beyond the Fox River and Green Bay, the importance of protecting fish and wildlife from toxins like PCBs has been widely recognized through the public support for environmental laws that do not ignore problems until those populations decline. The Clean Water Act; Migratory Bird Treaty Act; Federal Insecticide, Fungicide and Rodenticide Act; Endangered Species Act; and the courts' interpretations of these laws all require measurement and protection of wildlife, regardless of whether the population of a species is declining.

The debate about the relative importance of the numbers of a species residing in the Fox River and Green Bay versus the quality of wildlife will continue. However, the importance of numbers is not a valid argument for ignoring the real fish and wildlife injuries that can be measured. Neither is it a valid argument against cleaning up the Fox River and restoring the Green Bay environment. This is what the public demands and this is what the Fox River Intergovernmental Partnership hopes to accomplish.

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Spotlight On: Commencement Bay Nearshore/Tideflats

By Susan Pastor, U.S. Environmental Protection Agency

Although the Commencement Bay Nearshore/Tideflats Superfund site in Tacoma, Washington is not a river, it shares some similarities with Wisconsin's Lower Fox River. Both bodies of water are contaminated with polychlorinated biphenyls (PCBs), located along an industrialized area which includes pulp mills, contain adversely affected aquatic life, involve an Indian tribe and will entail an expensive cleanup.

Situated at the southern end of Puget Sound, near the city of Tacoma, the Nearshore/Tideflats area of Commencement Bay is divided at its eastern end into seven separate waterways, the Puyallup River and several adjacent land areas. Contaminated sediment and associated upland sources are being cleaned up under various agreements among the U.S. Environmental Protection Agency (EPA) Region 10 office, State of Washington Department of Ecology and the companies and municipalities determined responsible for the contamination.

While PCBs can be found throughout the Bay, the highest levels are in the northernmost waterway east of the Bay called the Hylebos Waterway. Here, PCB contamination is as high as 24 parts per million (ppm). Chemical contamination was caused by several industrial operations including chemical manufacturing plants, scrap metal recycling, and shipbuilding. Six companies, referred to as potentially responsible parties (PRPs), signed an agreement with EPA in 1993 to do pre-design activities for dredging and capping. One company agreed in 1997 to investigate and remove a highly contaminated "hot spot" near the waterway's mouth. The final cleanup plan for the Hylebos Waterway is expected to be selected this year, with completion slated for 2003.

Since all sites addressed under Superfund are unique, the cleanup goal for the Commencement Bay site differs from the goal proposed for the Lower Fox River. All contaminated sediment with PCB concentrations above .45 ppm will either be dredged and placed in a diked area called a confined disposal facility or it will be capped in place. Sediment with PCB concentrations between .45 ppm and .30 ppm will be monitored. If monitoring indicates that concentrations will not be reduced to .30 ppm through natural processes within 10 years, additional cleanup will be required.

According to Allison Hiltner, one of six remedial project managers assigned to this project,

strict cleanup levels are necessary to restore the Bay. The Puyallup Tribe, which owns land in Commencement Bay, has rights to fish for salmon in the Bay's waterways but refrains from doing so because of the PCB and other chemical contamination. "The Tribe is intimately tied to salmon," Hiltner explained. "It means a lot to the culture and history."

The cost to clean up the Hylebos Waterway is estimated at \$39 million. The total for all waterways and land areas is over \$200 million. The cleanup plan for Commencement Bay will protect human health and the environment in as cost-effective a manner as possible. Hiltner, who has worked on this project since joining EPA's Region 10 office in 1992, admits that \$200 million for a Superfund cleanup is expensive, however, it covers a big area. "It is about 10 square miles with a lot of investigation and cleanup activity happening since the site was first put on the National Priorities List in 1983," she continued. "A big component of the cleanup is source control and that is where about half of the \$200 million comes from. The State is doing a lot with industry to stop the sources."

Like citizens in Wisconsin's Fox Valley, Tacoma area residents have been included in the decision-making process. EPA developed a group called the Disposal Sites Forum that included local government, state and federal agencies, Indian tribes, PRPs, environmental groups and community members. This group discussed the process for selecting disposal sites for the contaminated sediment once it is removed from the Bay, developed a list of potential disposal sites and discussed the pros and cons of those sites. According to Hiltner, the Forum provided valuable input.

Through a Technical Assistance Grant, similar to that awarded to Green Bay's Clean Water Action Council, another group called Citizens for a Healthy Bay (CHB) also provides valuable input and keeps the community well informed. "CHB does a really good job of getting the word out," Hiltner said. "They do fact sheets and have a very wide distribution."

When all is said and done, the final goal for Commencement Bay, established in EPA's 1989 cleanup plan, is to have a healthy marine environment in the Bay and to protect people from eating contaminated seafood.

"We are actually pretty close," Hiltner concluded. "Within the next few years, we will negotiate cleanup agreements with most of the potentially responsible parties and get the majority of the cleanup done. Then, there will be a period of natural recovery. We are getting toward the end of the cleanup."

For more information on the Commencement Bay Nearshore/Tideflats Superfund site, contact Allison Hiltner at (206) 553-2140, Jim Hahnenberg at (312) 353-4213 or refer to the Region 10 home page at <http://www.epa.gov/r10earth>.

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Technical Corner . . . Capping

By Rich Trotto, Wisconsin Department of Natural Resources

Capping is one type of cleanup technology that is potentially applicable for management of contaminated sediment in the Lower Fox River. In situ capping, or capping in place, is the containment and isolation of contaminated sediment by placing clean materials over the sediment. Capping does not require removal of the sediment.

There are three types of caps that are under consideration for the Lower Fox River; conventional, armored and composite.

- Conventional capping involves the placement of sand or other suitable material over the top of contaminated sediment. The thickness of the cap and types of cover material are determined by the type of contaminant, concentration, and energy of the river. Low level polychlorinated biphenyl (PCB) contamination can generally be contained by a cap thickness of 12 to 20 inches (30 to 50 centimeters [cm]). In general, conventional caps are typically used in low current velocity areas.
- Armored capping involves first placing sand over the contaminated sediment, then covering that material with stone riprap. Armored caps are more commonly used in environments where high water velocities can threaten the physical cap integrity and cap thickness can be as much as three or more feet.
- Composite capping generally involves a more complex cap design utilizing several layers of sand, rock, geotextiles or membranes to achieve chemical isolation and protection of the cap. The criteria for the selection and design of a capping alternative include the concentration of PCBs, the depth and speed of the river at a given site, navigation and recreational uses, and biological effects. Generally, caps are more cost effective in deeper, low energy areas with little potential for erosion or disturbance of the cap.
- Contaminant Concentration _ Caps are generally used to isolate low level contamination. Sites with high levels of PCBs exceeding 50 parts per million (ppm) are typically dredged prior to capping the low level residual sediment. Sediment with PCB concentrations exceeding 50 ppm is generally referred to as Toxic Substances Control Act (TSCA) level sediment.
- Site Bathymetry (water depth) _ In order to maintain physical integrity, the cap surface must be in deep enough water to minimize the potential for ice scour or scouring from wind induced

currents or waves. According to the Draft Feasibility Study prepared in February 1999, in general, a minimum of three feet of water above the final cap is considered to be sufficient to ensure integrity against weather erosion at potential locations in the Lower Fox River.

Commercial and recreational boating use

of an area must also be considered to ensure both adequate draft clearance and to take into account the potential for disturbance from anchors or propeller wash.

- **Currents** _ Capping is considered an alternative for a given segment of the river where the average current speed is less than 0.15 feet per second (fps), or about 1/10 mile per hour (mph), and the maximum or 100-year flood current speed is no greater than 0.7 fps, or about 1/2 mph.

- **Other factors** _ Other factors which effect the viability, type, and placement of capping include contaminant chemistry, navigation channels, bottom sediment characteristics, materials used, placement method, impact on the river's habitat and future use, restrictions on future use, and long term monitoring, maintenance of the cap and advective forces beneath the cap. Advection refers to the movement of water or gas within the sediment or cap material. If present, advection will move the contaminant through a cap at an accelerated rate, which affects the physical stability of the cap.

Detailed information on capping, and the potential use of this technology in the Lower Fox River can be found in the Draft Feasibility Study, which is available on the DNR web site at <http://www.dnr.state.wi.us/org/water/wm/lowerfox/index.html>.

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Out and About

By Susan Pastor, U.S. Environmental Protection Agency

The Fox River Intergovernmental Partnership, made up of the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources (DNR), U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin, regularly provides speakers to organizations in the Fox Valley area. The following partners recently made presentations:

April

- “ *Greg Hill*, DNR: Fox River - League of Women Voters Committee, Appleton; Fox River cleanup.
- “ *David Allen*, FWS: The Nature Conservancy of Door County, Green Bay; Natural Resources Damage Assessment (NRDA) restoration.
- “ *David Allen*, FWS: Green Bay Remedial Action Plan (RAP) Science and Technical Advisory Committee (STAC); NRDA restoration.

May

- “ *Jim Hahnenberg, Roger Grimes, Dr. Milt Clark and Bri Bill*, EPA: PCB Sediments Conference, Madison; general Fox River cleanup and public participation strategies.
- “ *Bob Paulson*, DNR: Wisconsin Public Radio/NPR, Madison; PCB contamination.
- “ *David Allen*, FWS: Northeast Wisconsin Land Trust, Green Bay; NRDA restoration.
- “ *David Allen*, FWS: Green Bay RAP STAC; NRDA restoration.

June

- “ *Bob Paulson*, DNR and *Jim Hahnenberg*, EPA: DNR Statewide Program meeting, Appleton; general Fox River cleanup panel discussion.
- “ *David Allen*, FWS: Green Bay RAP STAC; NRDA restoration.

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Profile On . . . Gary Kincaid

By Rich Trotto, Wisconsin Department of Natural Resources

The man on the scene for the Wisconsin Department of Natural Resources (DNR) at Sediment Management Unit (SMU) 56/57 is Gary Kincaid, a 20-year veteran wastewater engineer in the DNR's Northeast Region in Green Bay. He has spent most of that time cleaning up waterways in Brown, Door, and Kewaunee counties. No stranger to water quality issues, Kincaid has administered wastewater permits for municipalities and major industrial companies in northeastern Wisconsin for most of his career.

For the current phase of the cleanup effort in SMU 56/57, Kincaid is the lead person for the DNR on the project. Kincaid, whose official position for this project is the On-Scene Representative for the DNR, is very familiar with the Fox River cleanup effort. He was previously involved in the SMU 56/57, and Deposit N demonstration projects, monitoring the wastewater on both. During the current phase of the 56/57 project, Kincaid will be monitoring wastewater and solid waste disposal.

This summer's cleanup is different from the previous effort in one very important aspect, according to Kincaid. "People should understand that this project is now a removal action. It is no longer a demonstration project, but, if it's done correctly and done well, it will demonstrate that the cleanup can be carried out effectively."

Kincaid's interest in water quality and the environment grew out of a life closely connected to the water. "I've always loved the water, and been interested in the environment," says Kincaid, who was born in the Wisconsin River community of Port Edwards.

His love of the water is reflected in his hobbies that include, boating, fishing, canoeing, and scuba diving close to home in the Great Lakes, and in more exotic locales, like the Caribbean. Kincaid is married and has two boys who also share his love of the water.

"I wanted to take oceanography in college, but that wasn't practical for someone living in the upper Midwest," says Kincaid, who turned his interests to more relevant studies, learning about rivers and lakes at the University of Wisconsin at Madison, and UW-Stevens Point, and at Marquette University. He earned an undergraduate degree in limnology (fresh water ecology, study of lakes, ponds and streams), and a master's degree in civil engineering with an environmental option.

During his college years, Kincaid worked in paper mills in his hometown of Port Edwards, giving him a unique perspective on the problems in the Fox River. "I think it's important to get this mass of PCBs out of the system for good. When you find a concentration of PCBs like this, it's better to get it out, rather than moving it around."

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